9.4 MW BIOGAS GENERATORS FOR HUGE WASTE TO ENERGY & RECYCLING FACILITY IN OHIO

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St. Augustine, Florida based biogas generating technology supplier, 2G CENERGY, is to supply equipment for a 9.4 MW biogas combined heat and power plant being developed at Ohio's Center for Resource Recovery and Recycling in Grove City.

The Center is being developer by Orlando, Florida based Team Gemini, a sustainable project design and development company, which has entered into an agreement with the Solid Waste Authority of Central Ohio (SWACO).

As part of its deal with SWACO, Team Gemini will build both a waste receiving facility and a waste stream recovery plant including anaerobic digesters.

Between them the buildings will cover some 185,000 square feet (17,200 square metres), which 2G claimed will make it the largest waste to energy and materials recovery facility of its kind in the world.

Two Phase

The project is divided into Phase 1 and 2. According to 2G CENERGY initially, the plant will be able to process up to 2000 tons (1814 tonnes) per day, about 30% of the current waste stream, with plans to process the entire waste stream in the future.

The company added that the Center will remove recyclable materials including metals and plastics, with the balance of the organic waste being preprocessed for use in anaerobic digesters.
The modular 2G biogas cogeneration system to be installed for Phase 1 is rated 5,550 kWh (5.55 MWh) and consists of three fully integrated 2G avus series CHP.

According to the supplier, the cogeneration system comes with ultra-low NOx and CO emissions control technology.

During Phase 1, landfill gas from the adjacent SWACO landfill site will also be utilised to fuel the cogeneration modules.

2G CENERGY said that it is also supplying the gas treatment technology package, as well as an advanced combustion management system. The automation and control technology enables the operator to monitor their energy efficiency and lower the environmental impact, reducing CO2 and NOx emissions to low, insignificant levels.

The facility also features technology from independent German company, enCO2, which was brought in to engineer the biowaste plant, apply its patented UDR Technology.

Team Gemini described the UDR Technology as an upflow-downflow-reflow digestion system, and claimed that it has an up to 30% higher yield on creating methane gas in comparison to conventional Biogas technologies.

Research Park

In addition to the waste receiving facility and recovery center, Team Gemini has signed a lease with SWACO to develop a 343 acre tract of land to create an industrial and research park that will serve as a sustainable business cluster powered by the waste stream located within a Community Reinvestment Area (CRA).

According to 2G CENERGY, an integral benefit for tenants of the sustainable industrial park will include access to recyclable by-products recovered from the waste processing, which can be used to create new products from recycled materials.

"Team Gemini set out to develop several clusters of technology in an industrial park setting that are fuelled synergistically with renewable energy of different types, from solar to anaerobic digestion, biogas, biomass and others, in order to create synergy within the park so that the industry can share off each other's waste stream," explained Doug Haughn, one of Team Gemini's founders.

Ronald J. Mills, executive director of SWACO added:"Historically, we always considered trash something that costs money to get rid of, a cost center."

"We will be turning trash management from a cost center to a true profit center by extracting the value that is intrinsically contained within that trash stream. This allows us to get closer to our vision of finding a viable alternative to landfilling," he continued.

Delivery of phase 1 is expected in late 2014, and phase 2 is following in 2015.

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